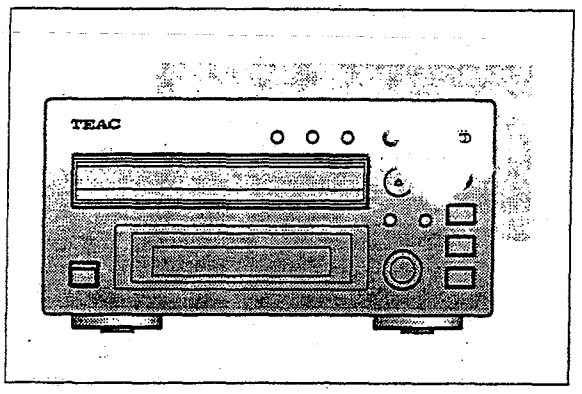

TEAC

SERVICE MANUAL

R-H300

Cassette Deck

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components.
  They must be replaced with identical components- refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.
  [DM]: JAPAN [E]: EUROPE

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DDCH-R

Specifications

DECK (for recording/playing)

- Track system : 4 track, 2-channel stereo
- Recording system : AC bias
- Erasing system : AC erasing
- Tape speed : 4.8cm/sec
- Motor : DC motor
- Ferquency response
  - Normal : 40~14,000Hz
  - CrO_2 : 40~15,000Hz
  - Metal : 40~16,000Hz
- FF and REW time : 120 seconds (C-60 cassette tape)
- Wow/Flutter : 0.15% (JIS, WRMS)
- S/N ratio
  - Dolby NR OFF : 55dB (CCIR/ARM)
  - Dolby B NR ON : 65dB (CCIR/ARM)
  - Dolby C NR ON : 75dB (CCIR/ARM)
- Input sensitivity / Impedance
  - Line : 90mV / 35kohms
- Output level / Impedance
  - Line : 548mV / 1kohms

General

- Power consumption : 8W [EUR]
- Power requirements : 230V, 50Hz [EUR]
- Dimension (W×H×D) : 215×112×270mm
- Weihgt : 3.3kg

Standard accessories

Audio signal connection cable : 2
Remote control connection cable : 1

* Improvements may result in specification or feature changes without notice.

MEASUREMENT AND ADJUSTMENT METHODS

Measurement condition

- Dolby NR position: OFF
- Make sure heads are clean
- Make sure capstan and pressure roller are clean.

Measuring instruments

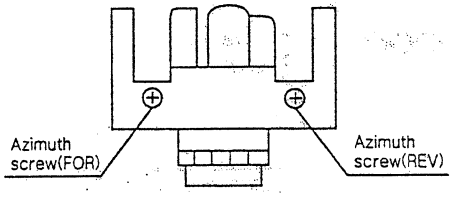
- EVM (Electronic Voltmeter)
- Oscilloscope
- Frequency counter
- AF Oscillator
- DC Voltmeter
- ATT (Attenuator or Audio Generator)
- Resistor (600ohm)

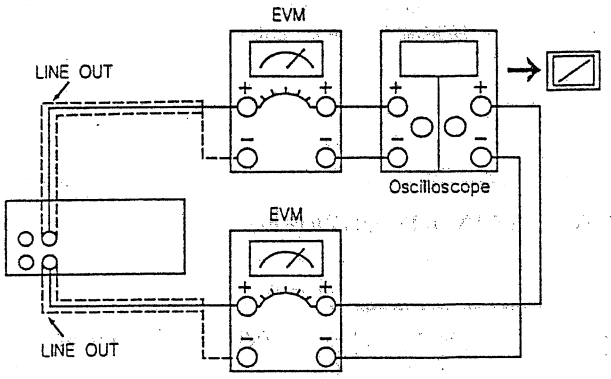
Test tape

- Head azimuth (10KHz, -10dB): MTT-114N
- Tape speed (3KHz, -10dB): MTT-111N
- Playback frequency response MTT-257H (125KHz, 1KHz, 10KHz, -10dB)
- Playback gain: MTT-150
- Blank tape
  Normal blank tape: MTT-5513
  CrO_2 back tape: MTT-5563
  Metal back tape: MTT-5572

HEAD AZIMUTH ADJUSTMENT

1. Test equipment connections are shown in fig. 1.
2. Playback the head Azimuth test tape and regulate the angle adjust screw so that the outputs of L-ch and R-ch are maximized. (When the adjusting positions are differene with L-ch and R-ch find a position Where the outputs of L-ch and R-ch are balanced and then make the adjustment.)
3. At the same time, obtain a lissajous waveform and eliminate phase deflection.
4. After the adjustment, apply screw lock to the angle adjusting value.



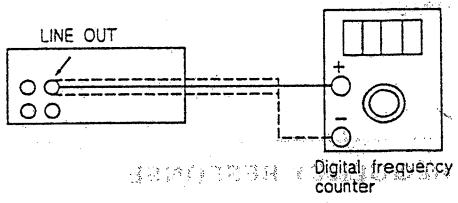


(Fig 1)

TAPE SPEED ADJUSTMENT

1. Test equipment connections are shown in fig. 2.
2. Playback the middle part of the test tape.

Adjustment Point	VR33
Standard Value	3,000Hz ± 30Hz

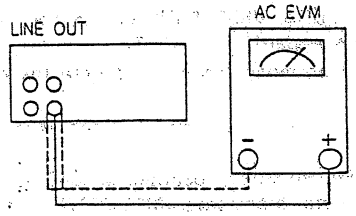


(Fig 2)

PLAYBACK GAIN ADJUSTMENT

1. Test equipment connections are shown in fig. 3.
2. Playback the playback gain test tape. (MTT-150).
3. Adjust plyback gain.

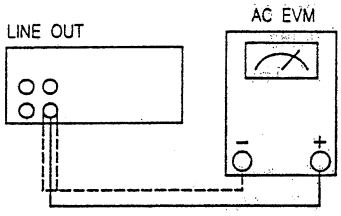
Adjustment Point	L ch	R ch
DECK	VR11	VR12
Standard Value	535mV	



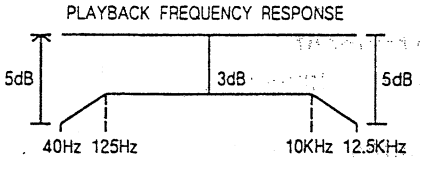
(Fig 3)

PLAYBCK FREQUENCY RESPONSE

1. Test equipment connections are shown in fig. 4.
2. Playback the playback frequency response test tape.
3. Check shown in fig. 5 for both L-ch and R-ch.



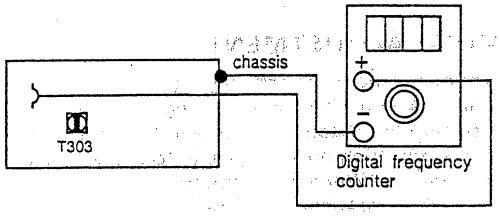
(Fig 4)



(Fig 5)

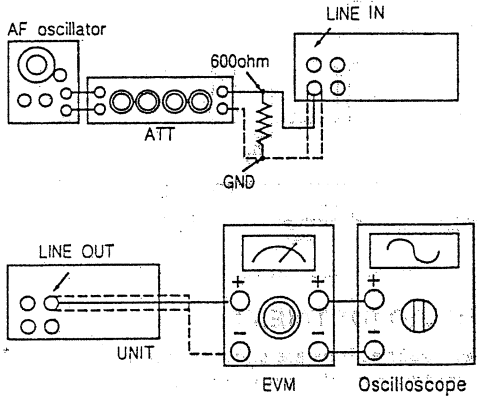
BIAS FREQUENCY ADJUSTMENT

1. Test equipment connections are shown in fig. 6.
2. Load a CrO_2 blank test tape.
3. Press the record and pause button.
4. Adjusts T303 for 105KHz frequency counter reading.



OVERALL GAIN ADJUSTMENT

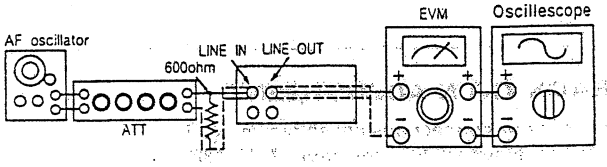
1. Test equipment connections are shown in fig. 7.
2. Insert the normal reference blank tape.
3. Place UNIT into record mode.
4. Supply a 1KHz signal through ATT (-10dB) from AF oscillator to line in.
5. Adjust ATT until monitor level at TP31 (L-ch) or TP32 (R-ch) becomes 180mV.
6. Playback recorded tape and make sure that the output level at L-ch (Line out) or R-ch (Line out) becomes 180mV.
7. If measured value is not 180mV, adjust it by using VR13 (L-CH) or VR14 (R-CH).
8. Repeat from step (2).

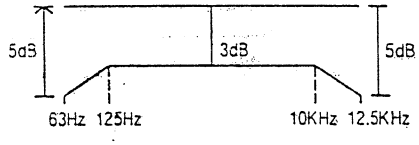


(Fig. 7)

OVERALL FREQUENCY RESPONSE

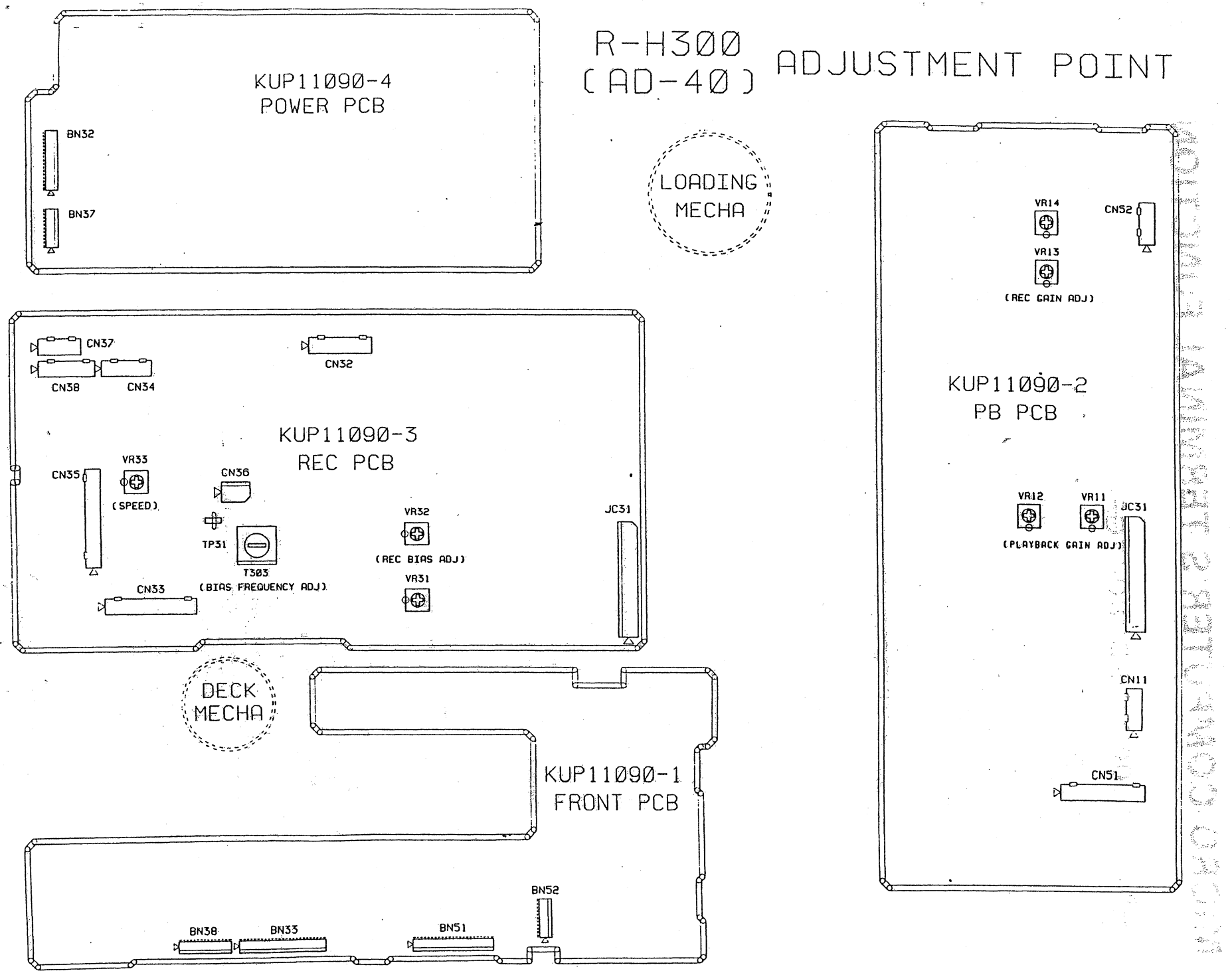
1. Set a normal blank tape (MTT-5513) and record by apply signal (100Hz, 1KHz, 10KHz) through ATT-from AF oscillator to lins in (Line out Level: 33mV).
2. Playback the signal recorded in step 1, and check that the level of each output frequency in within the range shown in fig. 8 in comparison with the reference frequency (1KHz).
3. If it is not within the standard range adjust the bias current by using VR31 (L-CH) or VR32 (R-CH) so that the frequency level is within the standard.
   - Level up in high frequency range ... Increase the bias current.
   - Level down in high frequency range ... Decrease the bias current.
4. After that, increase the signal recorded on CrO_2 blank tape (MTT-5563) and metal blank tape (MTT-5572) up to 12KHz and adjust in the same way as mentioned above and check that frequency level is within the range shown in Fig. 8.





(Fig. 8)

R-H300 (AD-40) ADJUSTMENT POINT

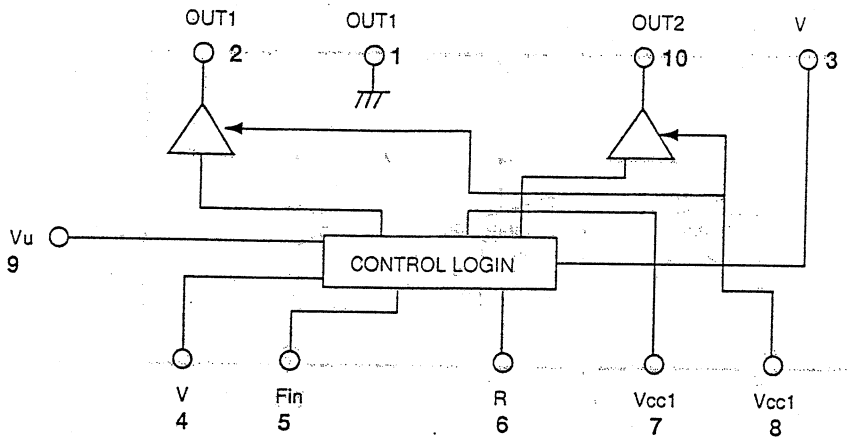


MICRO-COMPUTER'S TERMINAL FUNCTION

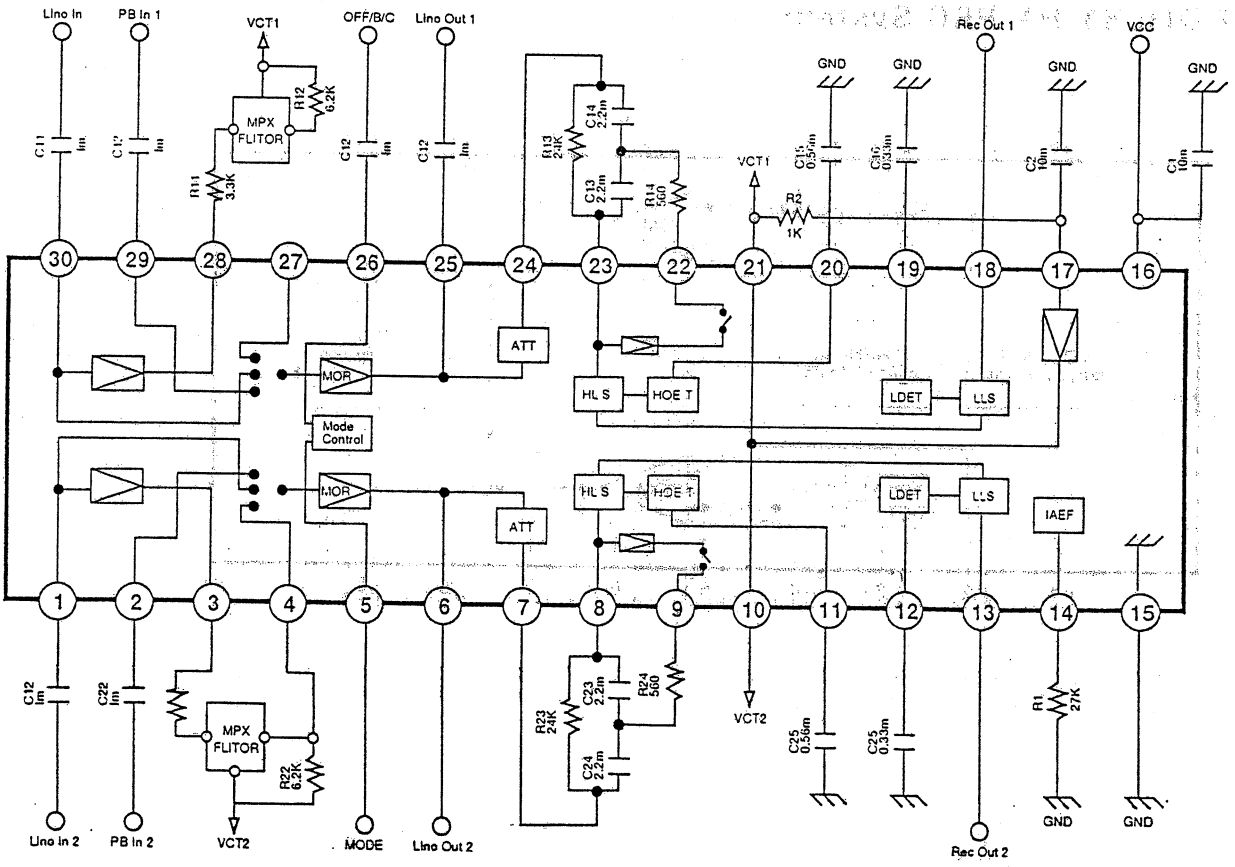
• ANAM 1200D (UPD78042GF)

No.	PIN NAME	DESCRIPTION
3~7	SEG ~SEG1	FIP digit select output for indication.
8	VDD	+5V Power supply terminal of this IC.
14~16	Key OUT	Key scan output.
17	$\overline{\text{RESET}}$	System reset pulse input.
18~19	TIME	Timer control Mode.
20	GND	To be grounded.
21~24	Key IN	Key scan input.
25	GND	To be grounded.
27	Meter L-ch	A/D Convertor input for level meter indication.
28	Meter R-ch	A/D Convertor input for level meter indication.
29	AVDD	+5V Power supply terminal of this IC.
30	AVref	Reference voltage input terminal.
31	GND	To be grounded.
32	XT2	Open
33	GND	To be grounded.
34	X1	Crystal element connecting terminal.
35	X2	
36	Key Mute	Rec mute control Mode (H = ON)
37	$\overline{\text{REC}}$	$\overline{\text{REC}}$ control Mode (L = ON)
38	LINE MUTE	Line mute control Mode (H = ON)
40	Dolby $\overline{\text{C}}$	Dolby $\overline{\text{C}}$ control Mode (L = ON)
41	Dolby $\overline{\text{B}}$	Dolby $\overline{\text{B}}$ control Mode (L = ON)
42	$\overline{\text{LINE}}$ / PB	$\overline{\text{LINE}}$ / PB control Mide
43	POWER	Power control Mode (H = ON)
44	GND	To be grounded.
45	T.P.S	T.P.S data input.
46	Hall	Hall IC data input.
47	Remocon IN	Remocon data input.
48	GND	To be grounded.
49	Remocon OUT	Remocon data output.
50	Close Motor	Close loading Motor control (H = ON)
51	Open Motor	open loading Motor control (H = ON)
52	VDD	+5V power supply terminal of this IC.
53	Close SW	Loading close detector sw input (L = ON).
54	Open SW	Loading open detector sw input (L = ON).
55	Rec (R) SW	Rec (Reverse) SW detector input.
56	Mode SW	Mode sw detector input.
57	TAPE SW	TAPE sw detector input.
58	Motor	Motor control output (H = ON)
59	Solenoid	Solenoid control output (H = ON)
60	Rec (F) SW	Rec (forward) sw detector input.
61~70	Seg1~Seg10	Fip segment control output.
71	V Load	(-24V) Negative power supply input terminal for fip blanking.
72~77	Seg11~Seg16	Fip segment control output.

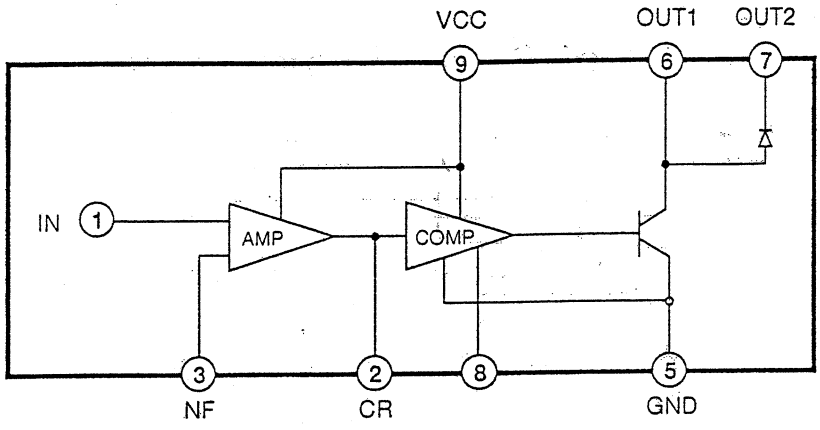
BA6209(Reversible Motor Driver)



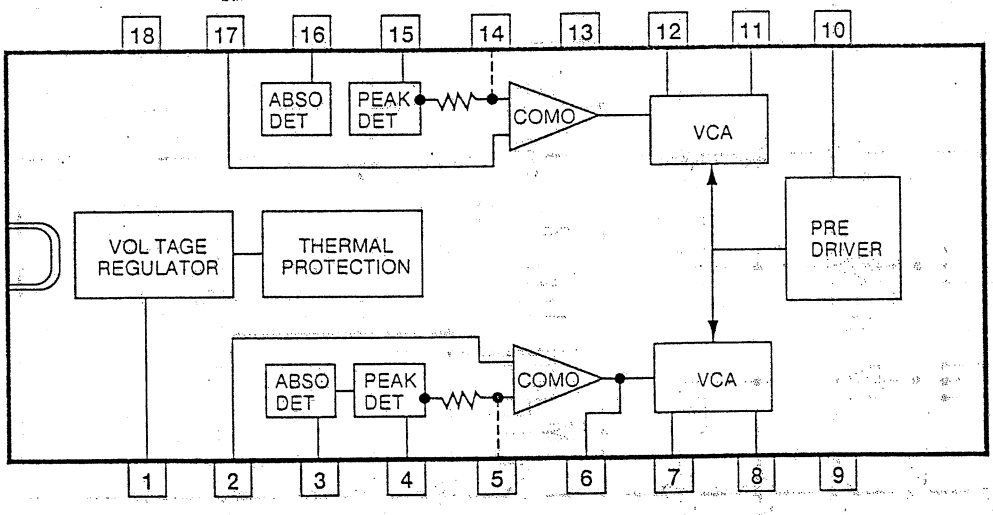
CXA1331S (DOLBY B. C Noise Reduction System)



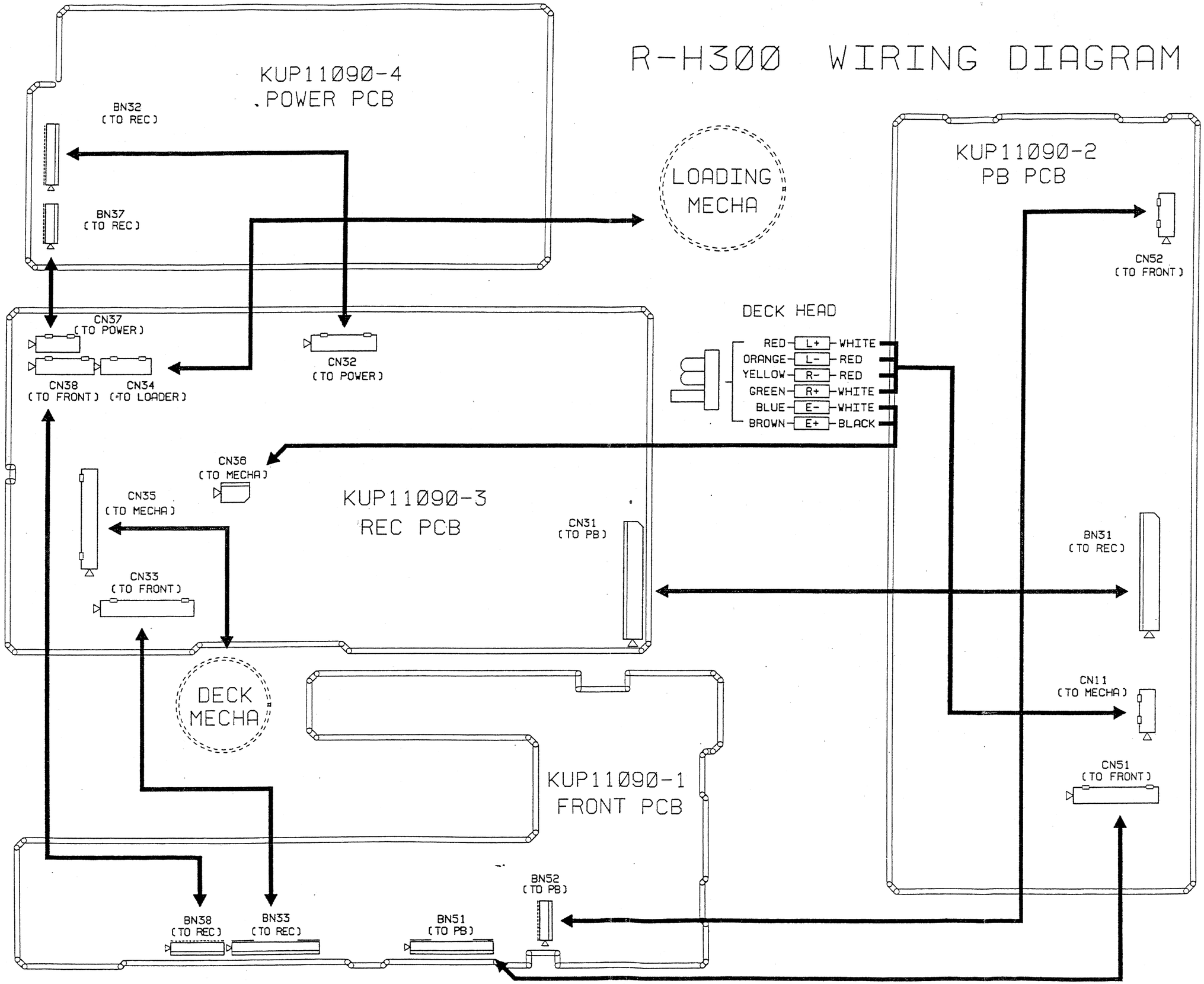
LA2000(Audio Level Sensor)



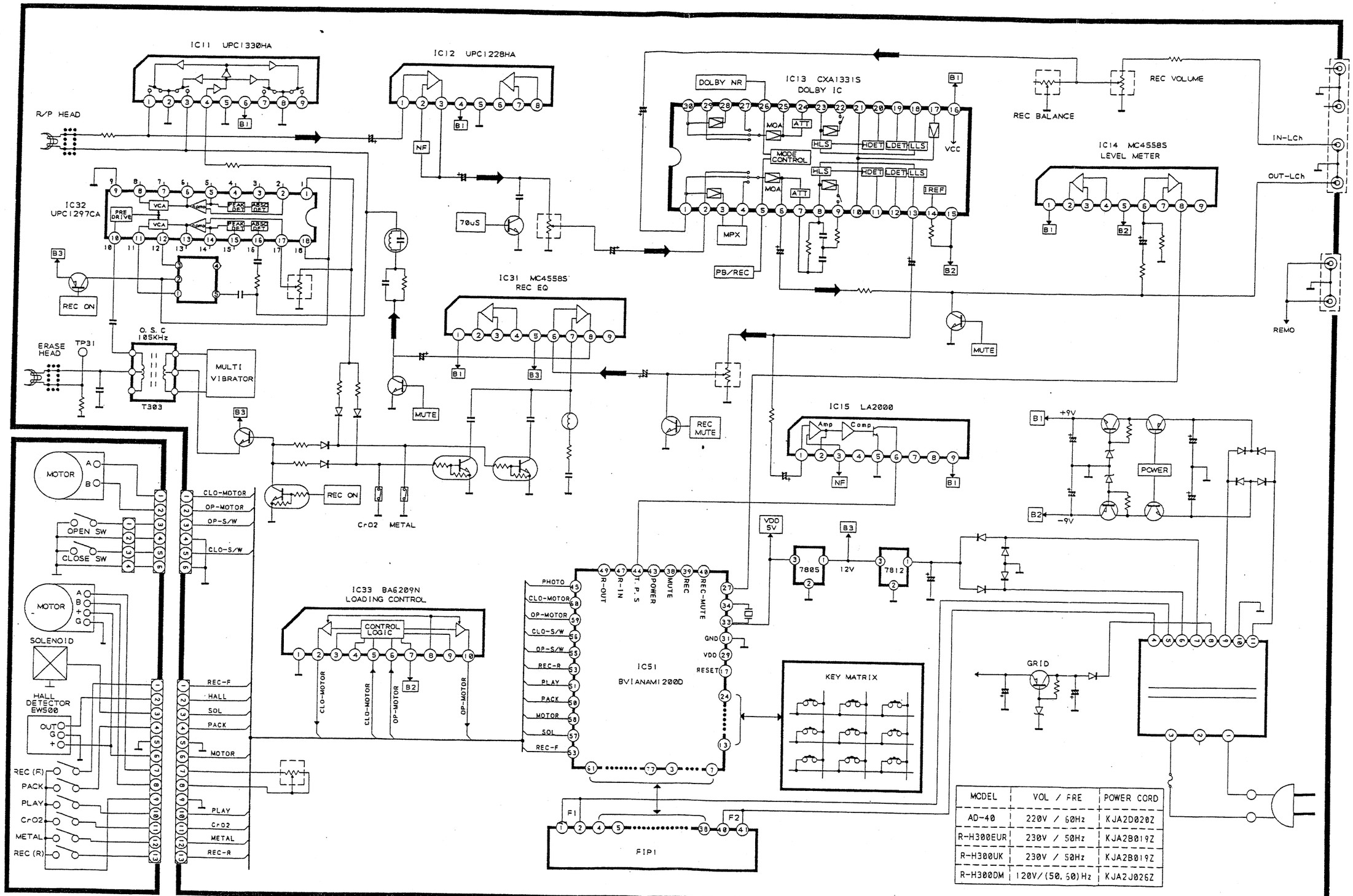
PC1297(DOLBY HX PRO System)



R-H300 WIRING DIAGRAM

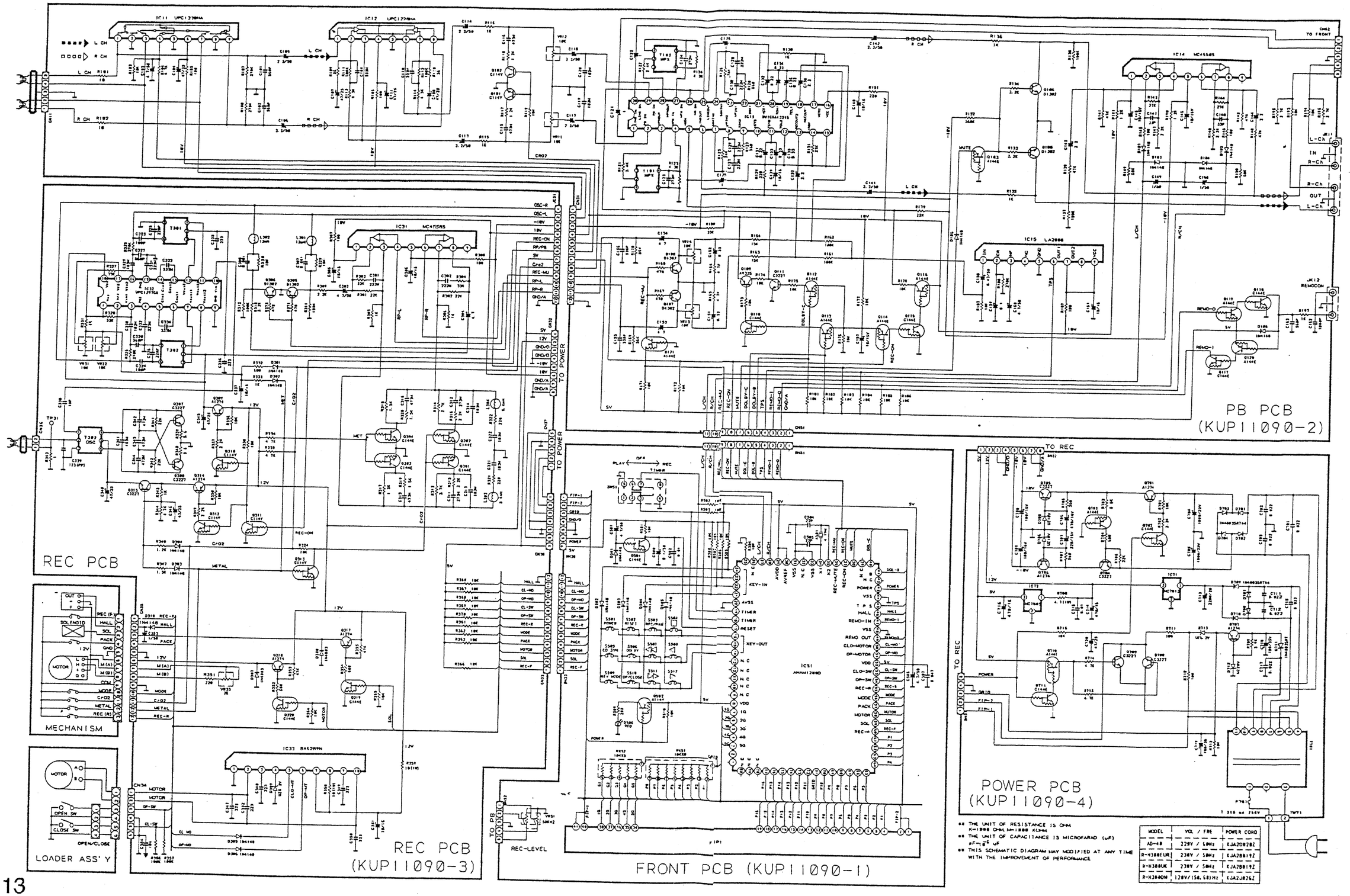


R-H300 BLOCK DIAGRAM



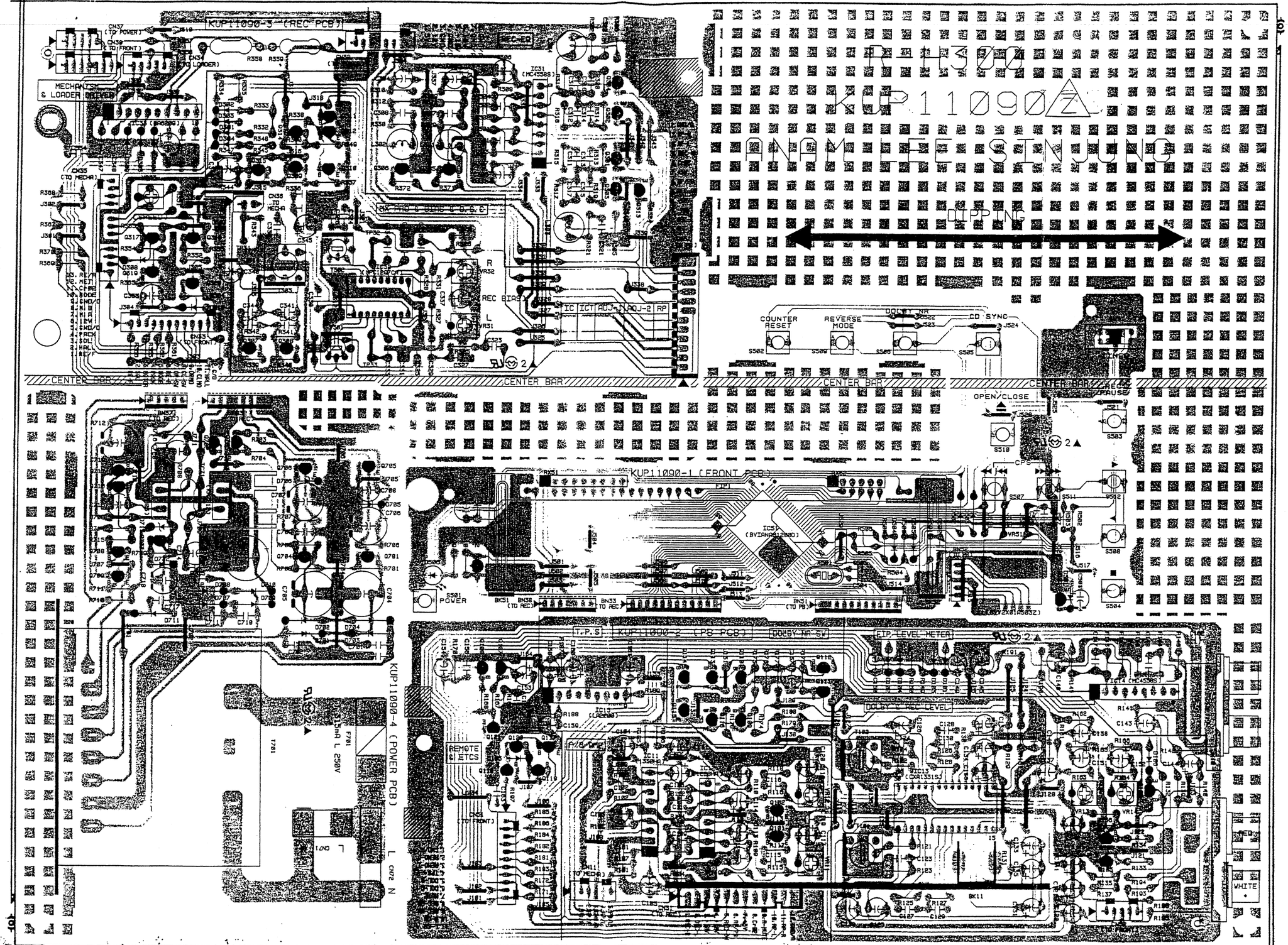
MODEL	VOL / FRE	POWER CORD
AD-40	220V / 60Hz	KJA2D020Z
R-H300EUR	230V / 50Hz	KJA2B019Z
R-H300UK	230V / 50Hz	KJA2B019Z
R-H300DM	120V/(50, 60)Hz	KJA2J026Z

R-H300(AD-40) SCHEMATIC DIAGRAM (KUP11090Z)

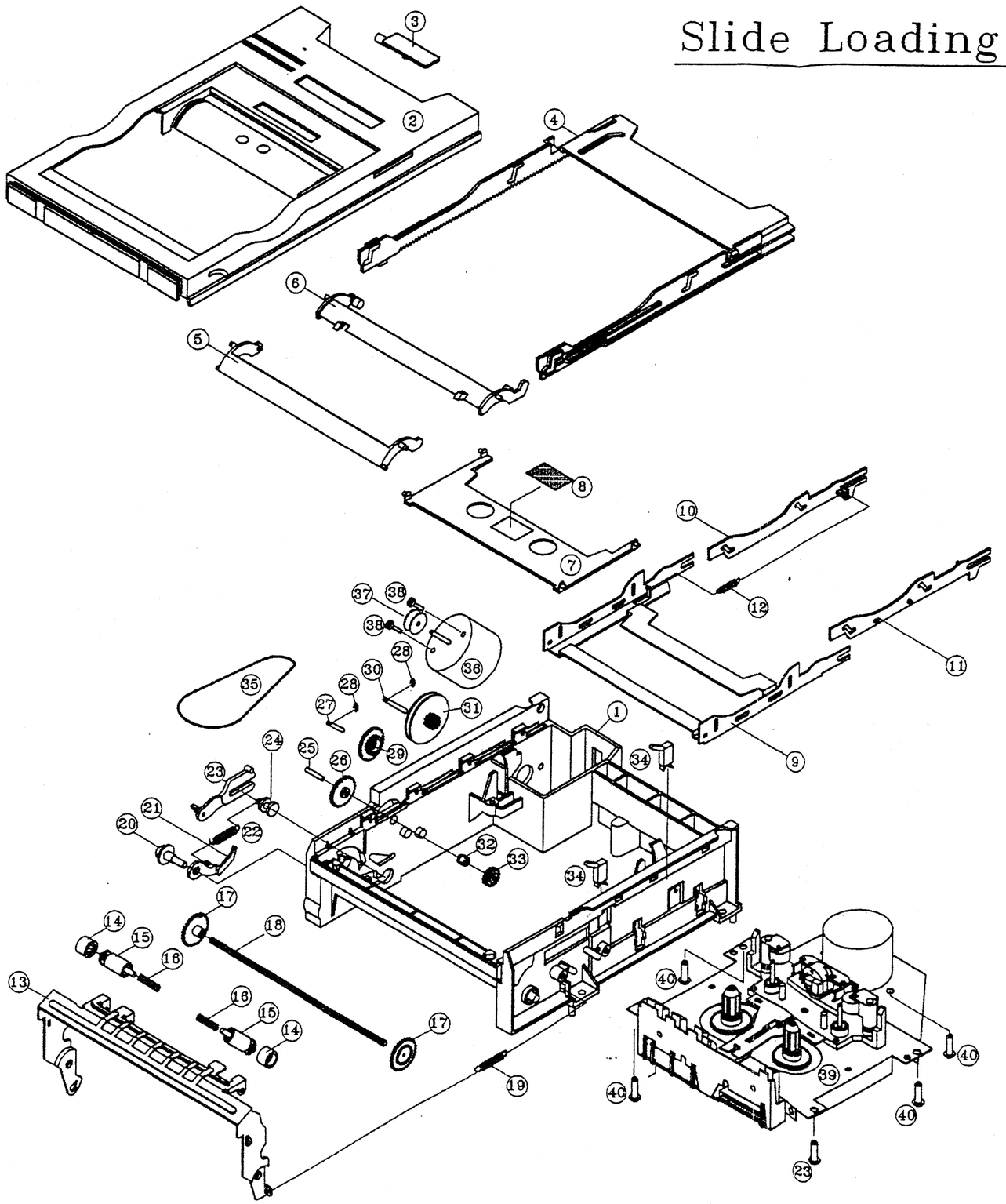


** THE UNIT OF RESISTANCE IS OHM
K=1000 OHM, M=1000 K(OHM)
** THE UNIT OF CAPACITANCE IS MICROFARAD (uF)
PF=10^{6} uF
** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE

MODEL	VOL / FRE	POWER CORD
AD-40	220V / 50Hz	KJA2D0202
R-H300EUR	230V / 50Hz	KJA2B0192
R-H300UK	230V / 50Hz	KJA2B0192
R-H300M	120V/(50, 60)Hz	KJA2J0262

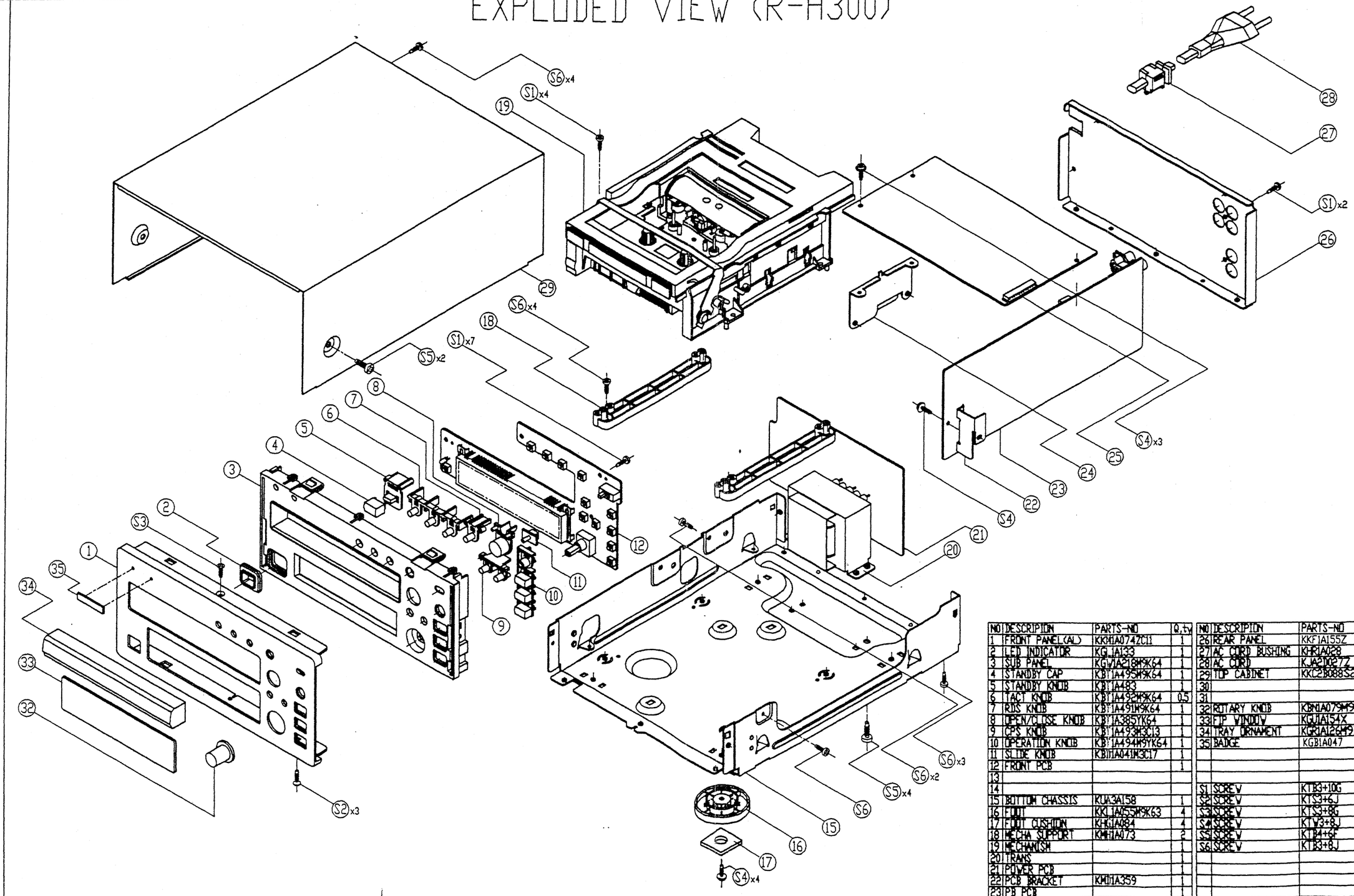

KUP1090-3 (REC PCB)
KUP11090-1 (FRONT PCB)
KUP11090-4 (POWER PCB)
KUP11090-2 (PB PCB)
KUP11090Z
NAME ETCHING
DIPPING
CENTER BAR
CENTER BAR
CENTER BAR
MECHANISM & LOADER BLOCK
REC BIAS
COUNTER RESET
REVERSE MODE
DOLBY NR
CD SYNC
OPEN/CLOSE
PAUSE
REMOTE ETCS
T.P.S
DOLBY NR-5V
DOLBY C NR LEVEL
FIP LEVEL METER
WHITE

Slide Loading Mechanism ass'y



NO.	PARTS NO.	DESCRIPTION	Q'TY	REMARKS
1	KDI1A005	BASE	1	
2	KDD1A005	TRAY	1	
3	KKR1A019	STOPPER	1	
4	KKR1A017	TRNASFER	1	
5	KKR1A016	LINKER , FRONT	1	
6	KKR1A015	LINKER , REAR	1	
7	KKR1A014	PLATTER , TAPE	1	
8	KKR1104B	REFLETOR	1	
9	KKR1A013	PLATTER , LOADING	1	
10	KDD1A009	TRAY , SUB(L)	1	
11	KDD1A006	TRAY , SUB(R)	1	
12	KUS1A063	SPRING , TRAY	1	
13	KUC1A023	ARM , PUSH	1	
14	KHR1A026	ROLL , SILICONE	2	
15	KKG1A026	HOLDER , BAR	2	
16	KUS1A067	SPRING ,COIL	2	
17	KDG1A010	GEAR , TRAY	2	
18	KDF1A009	SHAFT , BAR	1	
19	KUS1A065	SPRING , PUSH ARM	1	
20	KHD1A010	SCREW , SPECIAL	1	
21	KDD1A007	LATCH	1	
22	KUS1A064	SPRING , LINKER	2	
23	KKR1A018	LINKER	1	
24	KDR1A013	ROLLER	1	
25	KDF1A012	SHAFT , PIN	1	
26	KDG1A012	GEAR(A) , IDLE	1	
27	KDF1A010	SHAFT , GEAR	1	
28	KNW1A010	E-RING	2	
29	KDG1A013	GEAR(B) , IDLE	1	
30	KDF1A011	SHAFT , PIN	1	
31	KDR1A014	GEAR , PULLEY	1	
32	KDD1A008	BUSHING , SERRATION	1	
33	KDG1A011	GEAR , PINION	1	
34	BSH1A005Z	SWITCH , LEAF(MLS-1)	2	
35	KDV1A003	BELT	1	
36	KDM3220B1	MOTOR	1	
37	KDR1A010	PULLEY , MOTOR	1	
38	KSB26+4	SCREW	2	
39	KJD1G2S12Z	DECK MECHANISM	1	
40	KTB3+8G	SCREW	5	

EXPLODED VIEW (R-H300)



NO	DESCRIPTION	PARTS-NO	Q,ty
1	FRONT PANEL(AL)	KKHAA0742C11	1
2	LED INDICATOR	KGJA133	1
3	SUB PANEL	KGWA218M9K64	1
4	STANDBY CAP	KBTA495M9K64	1
5	STANDBY KNOB	KBTA483	1
6	TACT KNOB	KBTA492M9K64	0.5
7	RJOG KNOB	KBTA491M9K64	1
8	OPEN/CLOSE KNOB	KBTA385YK64	1
9	CPS KNOB	KBTA493M3C13	1
10	OPERATION KNOB	KBTA494M9YK64	1
11	SLIDE KNOB	KBTA041M3C17	1
12	FRONT PCB		1
13			
14			
15	BOTTOM CHASSIS	KUA3A158	1
16	FOOT	KKLA455M9K63	4
17	FOOT CUSHION	KHLA484	4
18	MECHA SUPPORT	KMHA073	2
19	MECHANISM		1
20	TRANS		1
21	POWER PCB		1
22	PCB BRACKET	KHDA359	1
23	P3 PCB		1
24	PCB BRACKET	KMDA361	1
25	REC PCB		1

NO	DESCRIPTION	PARTS-NO	Q,ty
26	REAR PANEL	KKFA155Z	1
27	AC CORD BUSHING	KHRA028	1
28	AC CORD	KJA2D027Z	1
29	TOP CABINET	KKC23088S21	1
30			
31			
32	ROTARY KNOB	KBHA079M9K69	1
33	FIP WINDOW	KGJA154X	1
34	TRAY ORNAMENT	KGRA126M9ZK64	1
35	BADGE	KGBA047	1
S1	SCREW	KTB3+10G	13
S2	SCREW	KTS3+6J	3
S3	SCREW	KTS3+8G	1
S4	SCREW	KTV3+8J	7
S5	SCREW	KTB4+6F	6
S6	SCREW	KTB3+8J	14

■ Resistor and Capacitor

Notes :
- Part numbers are indicated for most mechanical parts. Please use this part number for parts order.
- IMPORTANT SAFETY NOTICE. Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.
- The unit of resistance is OHM(Ω) K=1000(Ω), M=1000(KΩ)
- The unit of capacitance is MICROFARAD(μF).
- P=10⁻⁶μF

■ Numbering System of Resistor

Example

KRD (Type) | 25 (Wattage) | F (Shape) | J (Tolerance) | 101 (Value)

Resistor Type	Wattage	Tolerance
KRD:Carbon	20:1/5W	F:=±1%
KRG:Metal Oxide	25:1/4W	J:=±5%
	50:1/2W	K:=±10%
	1:1W	
KRF:Metal Cement	2:2W	
	3:3W	

■ Numbering System of Capacitor

Example

KCKT (Type) | 1H (Voltage) | 101 (Value) | K (Tolerance) | B (Peculiarity)

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
KCB:Ceramic	OJ:6.3V	1H:50V DC	C:±0.25pF
KCC:Ceramic	1A:10V	1:125V DC	G:±2%
KCK:Ceramic	1C:16V	KC:400V AC	J:±5%
KCQI:Polyester	1E:25V		K:±10%
KCQP:Polypropylene	1H:50V		Z:+80%, -20%
KCQS:Polystyrol	1V:35V		

■ ELECTRICAL PARTS LIST

REF No.	PART No.	DESCRIPTION
	DECK PCB ASS'Y	
BN32	KWZAD40BN32	WIRE ASS'Y
BN33	KWZAD40BN33	WIRE ASS'Y
BN37	KWZAD40BN37	WIRE ASS'Y
BN38	KWZAD40BN38	WIRE ASS'Y
BN51	KWZAD40BN51	WIRE ASS'Y
BN52	KWZAD40BN52	WIRE ASS'Y
LO34	KWZAD40LO34	WIRE ASS'Y
ME35	KWZAD40ME35	WIRE ASS'Y
RP11	KWZAD40RP11	WIRE ASS'Y
RING	KWZAD40RING	WIRE ASS'Y
CN11	KJP05GA19ZM	WAFER
CN31	KJP12GA63ZY	WAFER
CN32	KJP08GA19ZM	WAFER
CN33	KJP12GA19ZM	WAFER
CN34	KJP06GA19ZM	WAFER
CN35	KJP13GA19ZM	WAFER
CN36	KJP02GA01ZM	WAFER
CN37	KJP05GA19ZM	WAFER
CN38	KJP07GA19ZM	WAFER
CN51	KJP11GA19ZM	WAFER
CN52	KJP05GA19ZM	WAFER
JC31	KJP12HB60ZY	HOUSING, ANGLE
C101, C102	KCBS1H561KBT	CAP, CERAMIC
C105, C106	KCEA1HHR2R2T	CAP, ELECT
C109, C110	KCQI1H333JZT	CAP, MYLAR
C115, C116	KCQI1H473JZT	CAP, MYLAR
C117, C118	KCEA1HH2R2T	CAP, ELECT
C127, C128	KCQI1H223JZT	CAP, MYLAR
C135, C136	KCEA1HHR33T	CAP, ELECT
C151, C152	KCEA1HHR33T	CAP, ELECT
C158	KCEA1HHR47T	CAP, ELECT
C159	KCEA1HH0R1T	CAP, ELECT
C301, C302	KCQI1H222JZT	CAP, MYLAR
C340, C346	KCEA1EH470T	CAP, ELECT
C506	KCEA1HH0R1T	CAP, ELECT
C704, C705	KCEA1EH222E	CAP, ELECT
C706	KCEA1CH471T	CAP, ELECT
C707	KCEA1CH221T	CAP, ELECT
C708, C709	KCEA1CH101T	CAP, ELECT
D101, D102	KVD1N4148MT	DIODE
D103, D104	KVD1N4148MT	DIODE
D301, D302	KVD1N4148MT	DIODE
D307, D308	KVD1N4003ST	DIODE
D506	KVD342VCF02TC35	L E D, RED
D701, D702	KVD1N4003ST	DIODE
D703, D704	KVD1N4003ST	DIODE
D705, D706	KVDMTZJ10BMT	DIODE, ZENER(10V)
D707, D708	KVD1N4003ST	DIODE
D709, D710	KVD1N4003ST	DIODE
D711	KVD1N4003ST	DIODE
D712	KVDMTZJ20BMT	DIODE, ZENER(20V)
D713	KVDMTZJ6.2BMT	DIODE, ZENER(6.2V)
FIP1	BFLFIP5AA01YY	FIP
F701	KBACC0315TLE	FUSE
	KJA2B01BZ	CORD, POWER
IC11	BVIUPC1330HA	IC(R'P SW)
IC12	BVIUPC1228HA	IC(PB AMP)
IC13	BVICXA1331S	IC(DOLBY)
IC14	KVIMC4558S	IC(LEVEL METER)

REF No.	PART No.	DESCRIPTION
IC15	BVILA2000	IC(T.P.S)
IC31	KVIMC4558S	IC(REC AMP)
IC32	BVIUPC1297CA	IC(HX PRO)
IC33	KVIBA6209N	IC(MOTOR)
IC51	BVIAD1200D	IC(μ-COM)
IC71	KVIMC7812C	IC(+12V)
IC72	KVIMC7805C	IC(+5V)
JK11	KJJ4P027Z	JACK, IN/OUT
JK12	KJJ4N016Z	JACK, BOARD
L301, L302	KLM9C008Z	COIL, TRAP
L303, L304	KLQW542KLZ	COIL(5.4mH)
Q101, Q102	KVTDTC114YST	T.R
Q103	KVTDTA144EST	T.R
Q105, Q106	KVTKTD1302T	T.R
Q109	KVT2SA933SRT	T.R
Q111	KVTKTC3227YT	T.R
Q301~Q304	KVTDTC144EST	T.R
Q307, Q308	KVTKTC3227YT	T.R
Q501	KVTDTC144EST	T.R
Q701, Q707	KVTKTA1274YT	T.R
Q702	KVTDTC144EST	T.R
Q704, Q705	KVTKTC3227YT	T.R
Q706	KVTKTA1274YT	T.R
Q708, Q709	KVTKTC3227YT	T.R
Q710	KVTDTA144EST	T.R
R101, R102	KRD20TJ100T	RES, CARBON
R107, R108	KRD20TJ274T	RES, CARBON
R117, R118	KRD20TJ122T	RES, CARBON
R121, R122	KRD20TJ242T	RES, CARBON
R301, R302	KRD20TJ223T	RES, CARBON
R358, R359	KRG1ANJ100H	(1W, 10Ω)
R710, R711	KRD20TJ101T	RES, CARBON
R708	KRG1ANJ4R7H	(1W, 4.7Ω)
S501~S512	BST1A104ZT	SW, TACT
SW51	KSS3B003Z	SW, SLIDE
T101, T102	KLM9C002Z	COIL, MPX
T301, T302	KLM9B009Z	COIL, HX-PRO
T303	BL0R004-S	COIL, BIAS
T701	KLT5N018ZE	TRANS, POWER
VR11~VR14	BVN1PA103B01T	SEMI, VR 10kΩ
VR31, VR32	BVN1PA103B01T	SEMI, VR 10kΩ
VR33	BVN1PA202B01T	SEMI, VR 2.2kΩ
VR51	BVV2X01A503Z	VOLUME(REC)
X501	KOX0119HE120C	X-TAL, 4.19MHz
	KJS4M014Y	CORD, PIN (REMOCON)
	KJS4N008Z	CORD, PIN (SIGNAL)